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ABSTRACT

In an era when competitive advantage is fleeting, change is constant, and the whole globe is business' arena, the United States needs to change its educational system as well as its perspective on education and work. Most thinking about how to educate people for work, whether in school or elsewhere, is as outdated as an old-fashioned assembly line. Job-related training and education bear directly on individual opportunity and on the competitiveness of U.S. employers. Even though U.S. employers spend $30 billion a year on formal training, this is only enough to train 10 percent of employees. Job-related training and education are unevenly distributed among the population, with managers and professionals getting a bigger share than other types of workers, and the college-bound getting a bigger share than other types of students. For the 1990s, the work force must be equipped to learn; prepared for change; prepared to apply new technology; competent, skilled, motivated, and fulfilled; and valued, developed, and renowned as a national resource. The American Society for Training and Development adds its voice to many raised in concern for the potential of the U.S. work force. The society supports work-related learning as a lifetime undertaking and makes recommendations to educators, employers, and legislators. (KC)

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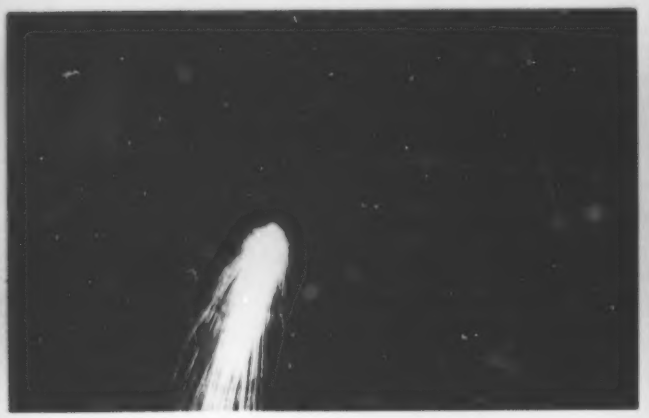

LEARNING TO WORK FOR THE 21st CENTURY

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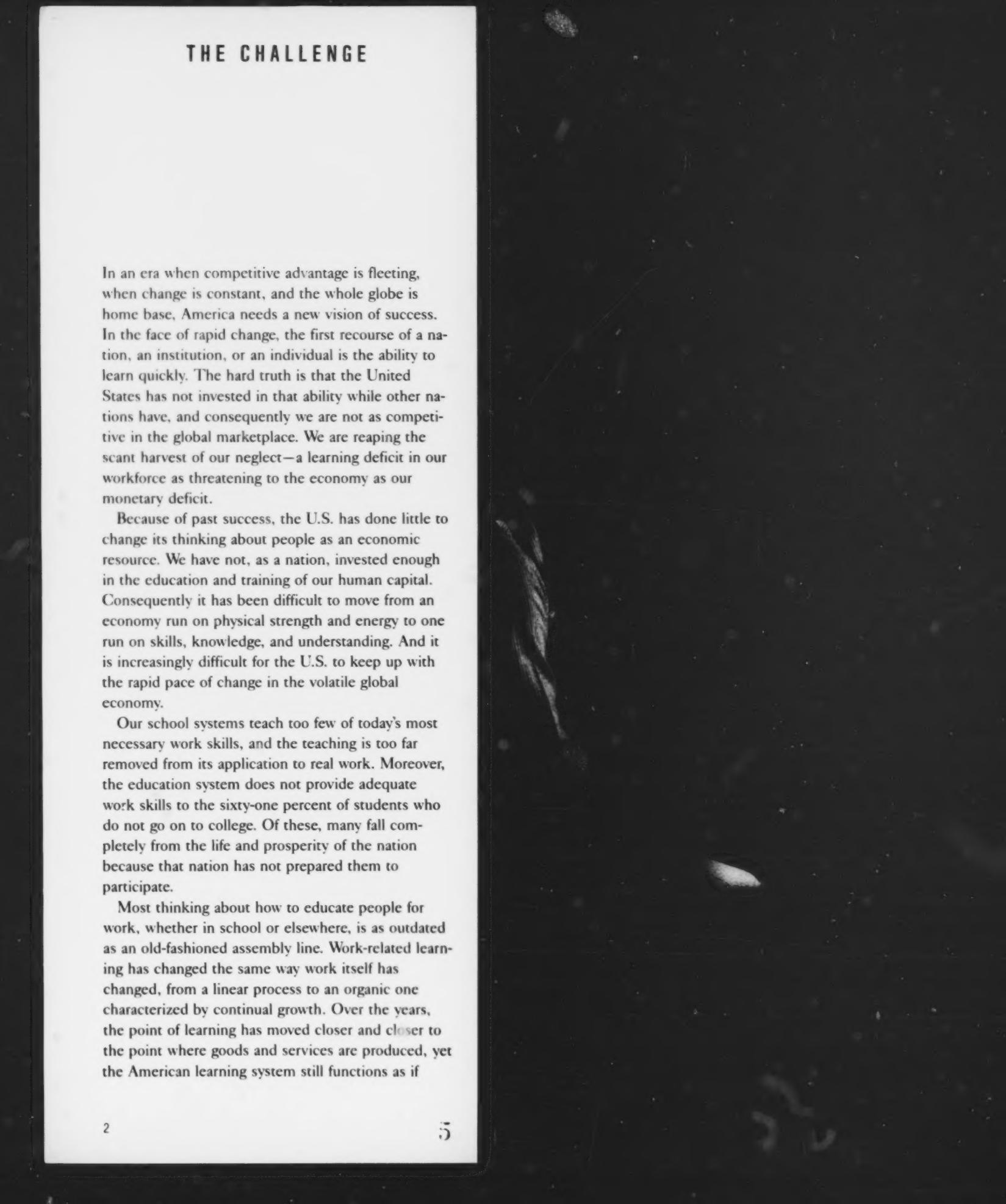
THE CHALLENGE

In an era when competitive advantage is fleeting, when change is constant, and the whole globe is home base, America needs a new vision of success. In the face of rapid change, the first recourse of a nation, an institution, or an individual is the ability to learn quickly. The hard truth is that the United States has not invested in that ability while other nations have, and consequently we are not as competitive in the global marketplace. We are reaping the scant harvest of our neglect—a learning deficit in our workforce as threatening to the economy as our monetary deficit.

Because of past success, the U.S. has done little to change its thinking about people as an economic resource. We have not, as a nation, invested enough in the education and training of our human capital. Consequently it has been difficult to move from an economy run on physical strength and energy to one run on skills, knowledge, and understanding. And it is increasingly difficult for the U.S. to keep up with the rapid pace of change in the volatile global economy.

Our school systems teach too few of today's most necessary work skills, and the teaching is too far removed from its application to real work. Moreover, the education system does not provide adequate work skills to the sixty-one percent of students who do not go on to college. Of these, many fall completely from the life and prosperity of the nation because that nation has not prepared them to participate.

Most thinking about how to educate people for work, whether in school or elsewhere, is as outdated as an old-fashioned assembly line. Work-related learning has changed the same way work itself has changed, from a linear process to an organic one characterized by continual growth. Over the years, the point of learning has moved closer and closer to the point where goods and services are produced, yet the American learning system still functions as if



learning and work should be separate. We no longer have the luxury of learning first and then working.

Schools no longer carry the whole burden of educating people for work. When it comes to job-related learning, it is unfair and shortsighted to make formal education the sole cause and cure of our competitive disadvantage. There is a much larger learning enterprise in this country made up of the nation's employers, both public and private. Together they spend nearly $210 billion annually on informal and formal training for the nation's workforce. This large, shadowy learning system is the nation's major supplier of work-related learning to adults, serving more people than does the entire higher-education system. But as the nation's declining productivity shows, even this expenditure is not enough, nor is this system being applied to its fullest advantage.

In an era when competitive advantage is fleeting, when change is constant, and the whole globe is home base, America needs a new vision of success.

Job-related training in the United States, from elementary education to executive training, is insufficient and unevenly distributed. It is time to stop putting our workforce and our economy at risk and to fix a problem that is abundantly clear. It is time for educators to step back and look at learning and work with new eyes. It is time for employers to step forward and lead the closing of the learning gap in the workplace with all possible speed. And it is time for the government to make adequate work-related learning for everyone a national priority.

The American Society for Training and Development, as the representative of the nation's employer-based learning system, calls for comprehensive action on behalf of the nation's human resources. As a nation we need not just specific changes in education practice or policy, but action that will increase the learning system's capacity for rapid change and flexible adaptation to the demands of the global economy.

WHY LEARNING MATTERS TO THE ECONOMY

When economic growth declines, so does the standard of living, and many of our goals, both national and personal, become too expensive. Not long ago the United States had the strongest currency, the most food, the best technology, the richest supply of natural resources, and the highest per capita consumption in the world. But none of that is true today.

Economic growth depends on a prepared workforce. A Hudson Institute study estimates that we must upgrade the skills of 25 million American workers by 40 percent by the end of the century if we are to see a growth rate of three percent.

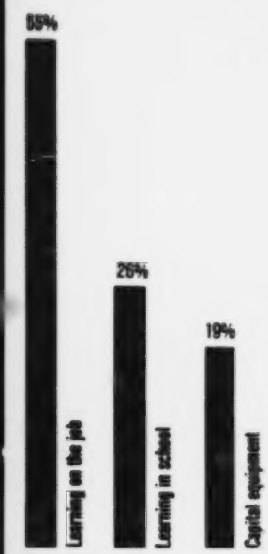
The influence of skills on opportunity for individual Americans is powerful and growing. Consider these facts:

Job-related training and education bears directly on individual opportunity. People who receive formal training on the job enjoy an earnings advantage of 25 percent or more over those with no such training. People who have had informal training on a prior job earn 20 percent more than those who had none.

Job-related training and education is critically important to the competitiveness of American employers. Over the past 50 years such learning has been consistently more important than machine capital in expanding U.S. productive capacity.

A profound economic lesson of this decade is that people, rather than machines or capital, are the critical factors in productivity and growth. Learning in school expanded the nation's productive capacity by 26 percent, and learning on the job contributed about 55 percent to productivity growth since 1935.

The economic history of the modern world shows acquired human skills inexorably replacing natural and machine resources as the basic building blocks of production and service. In 1890, resources from the earth, including minerals, energy, and food, accounted for 50 percent of the gross national product. Today, these same resources account for less than 10 percent of production and services.



Sources of U.S. productivity growth, 1935-1985

Even though U.S. employers spend $30 billion a year on formal training, this is only enough to train 10 percent of employees.

Without a commitment to more learning for the workforce, U.S. productivity, which has been declining, could fall even further. After World War II we produced 50 percent of the world GNP with only 6 percent of the world workforce. Today the U.S. portion of world output is 23%. If we stay on our present course, we are heading for seventh place in the world productivity charts by 2003.

Job-related training and education is unevenly distributed among the population, with managers and professionals getting a bigger share than other types of workers, and the college-bound getting a bigger share than other types of students.

General and vocational education students make up about 61 percent of the high school student population. This "other half" of the class is receiving poor basic skills education and outdated preparation for work.

The work of upgrading the "other half" to give them skills that will increase their effectiveness on the job falls to junior colleges, vocational schools, technical schools, the military, and to employers.

The employee training system mirrors the education system. Training and employee development is concentrated among white collar and technical workers, with production and service delivery personnel receiving much less training. Only 55 percent of Americans get preparation from any source for their jobs, and only 35 percent receive any upgrading on the job. Informal training, such as coaching, is three to six times as common as formal training.

THE LEARNING DEFICIT

To make its way in the world economy today, the United States relies on high-skilled, technology-intensive production and services. To turn technology into a competitive advantage requires not just a skilled workforce but one that can keep on adapting its skills to new technology at an ever more rapid pace. It requires a workforce that has learned how to learn.

Even organizations that do not rely on technology depend on employees' skills for critical gains in efficiency, quality, customer service, and new applications for their products and services. Cycle time—the time it takes to go from an idea to its application—separates today's economic winners from the losers. Innovations along the way—those small incremental changes that improve a product or service—come from the learning that takes place as people work on the product or service. And it is clearer and clearer that such cost-saving and cycle-time efficiencies come increasingly from the portion of the workforce that presently has the fewest skills and the least training.

A LEARNING DEFICIT INDEX

Percentage of the workforce that must be trained in order to see a productivity growth rate of 3% by 1990: 40%

Percentage of employees receiving formal training in 1988: 30%

■

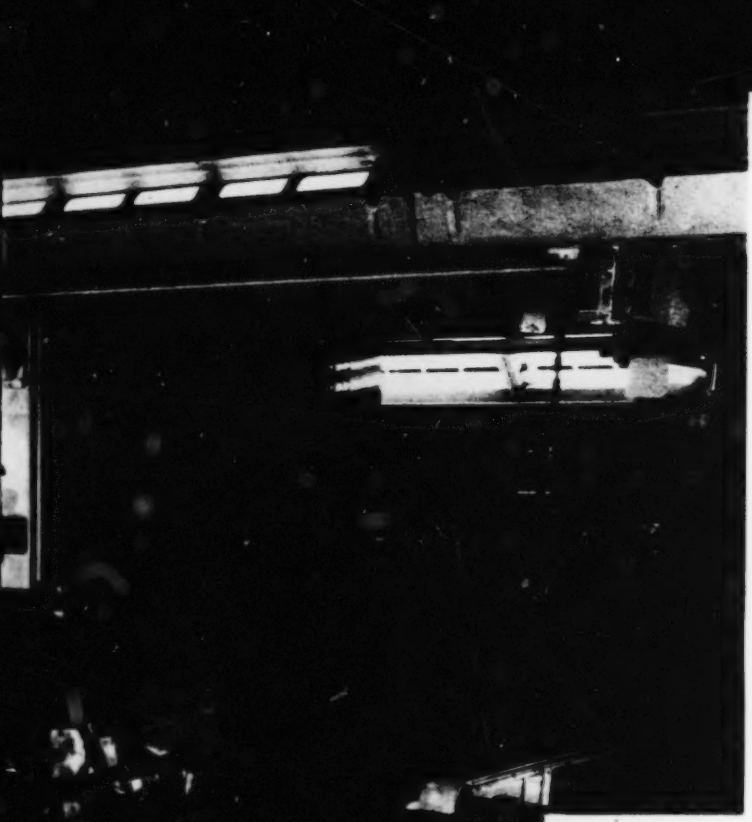
Percentage of Americans who say they received formal preparation for their jobs: 55%

Percentage of Americans who say they received any skill upgrading on the job: 35%

■

The nation's need for smarter workers is on a collision course with an ill-prepared labor supply. By the year 2000, more than half of America's new jobs will require education beyond high school, but even now thirty percent of students entering high school do not graduate. By the year 2000 almost a third of new jobs will require a college education, yet the number of college-age students will decrease by 25 percent.

In fields especially critical to competitive advantage, such as science and engineering, the shortages will be even greater. One estimate is that a mere one quarter of one percent of high school students go on to obtain advanced degrees in science or engineering.



Compounding the need for smarter workers will be an unprecedented shortage in their numbers. What began as a surplus in the labor supply has dwindled to nothing. By the year 2000, there will be too few trained and educated workers to satisfy the nation's economic needs.

Not only will there be fewer people coming into the workforce, but the composition of the new worker group will change dramatically. White males will make up only 15 percent of the net additions to the labor force between 1985 and 2000; the rest will be an unfamiliar amalgam of women, minorities, and immigrants. Historically these groups have been undervalued relative to the economy and consequently are underprepared for their new role. But in the future, employers will be challenged to mine and develop this rich and largely untapped resource.

Percentage of current jobs requiring education beyond high school: 54%

Percentage of future jobs (1984-2000) requiring education beyond high school: 65%

Percentage of new jobs that can be filled by people with the lowest skill levels: 4%

■

Percentage of high school class that does not go to college: 61%

Percentage of high school students who take more than two years of math: 50%

■

Percentage of U.S. adults considered functionally illiterate: 20%

Percentage of Japanese adults considered functionally illiterate: 5%

Adding to the nation's learning deficit are major skill gaps in workers already on the job. Huge numbers of employees—as many as 30 percent by some estimates—are illiterate. Scores more lack a basic facility with math that is now an essential ingredient for working in the information age. Employers spend as much on remedial mathematics education as is spent on mathematics education in schools, colleges, and universities.

Compared to their counterparts in other countries, U.S. workers fall short in the basics of reading, writing, and computation, and especially in the higher-level cognitive and affective skills that have become the new workplace basics.

A telling comparison is that it takes a U.S. car manufacturer 60 months to bring a new product to market while a Japanese company can design, manufacture, and begin selling a new car model in just 40 months. In many other areas, especially those where new technology must be applied quickly, or cycle time must be reduced, the U.S. workforce at all levels is not learning fast enough to keep pace.

A NEW VISION OF SUCCESS

To compete in today's world economy, the U.S. needs not only a workforce that is adequately prepared to begin work but one that continues to increase in value through learning. It is vitally important to meet this challenge with a new response. Old ways of preparing people for productive work are as inadequate today as old ways of manufacturing. Past success at educating and shaping a workforce grew out of conditions that no longer exist and ideas that are no longer practical.

Two assumptions are especially outdated with respect to developing a competitive workforce. The first is that work and learning are separate. To shorten the cycle time on job-related learning, we must link learning much more closely to work and treat it as a lifelong process.

The second outdated assumption is that our fifty-year-old vision of the workforce will serve our current and future economic needs. For the 1990s we need a workforce that is:

- equipped to learn
- prepared for change
- prepared to apply new technology
- competent, skilled, motivated, and fulfilled
- valued, developed and renowned as a national resource

Past success at educating and shaping a workforce grew out of conditions that no longer exist and ideas that are no longer practical.

- responsible for its own career growth
- committed to global standards of work excellence
- able to value and benefit from its diversity
- accessible to all who wish to work.

To prepare such a workforce the nation's learning enterprise should:

- be based on a renewed vision of learning related to work
- be committed to preparing all adult citizens to work
- be free from old assumptions, old systems, and old standards of success
- be dedicated to national learning goals
- be responsible for its own continual improvement
- be customer/learner focused
- be product driven
- support lifelong learning instead of guaranteed employment
- integrate the best practices of public, private, and employer-based education
- permit employers and employees to learn from each other
- build, share, and use the best of learning theory and technology
- honor and reward teaching and learning excellence.

THE CALL TO ACTION

The American Society for Training and Development adds its voice to many raised in concern for the potential of the American workforce. Although we speak for employers, and urge them to take a leadership role, we call on the whole learning enterprise to put work-related learning at the head of the national agenda for the 1990s. We want to rally under a common flag all those who support work-related learning as a lifetime undertaking.

The nation's need for smarter workers is on a collision course with an ill-prepared labor supply.

We believe that a comprehensive effort is essential. Our recommendations are directed to educators, employers, and the government. Each has a stake in building a competent workforce, and each has a clear role to play.

Schools are major partners because they preserve and disseminate knowledge that will create the next technology and the next set of employers, jobs, and employees. This is their role in the economy as surely as it is to be the creators and guardians of culture. Schools have an important short-range mission, too: making people ready for work and for further learning on the job.

Business organizations are major partners in training America because they lead our efforts in the world economy. Agile minds and sufficient skills are the engine that drives their performance, and learning is the fuel for that engine. Business is best at translating real-world needs into applied learning programs and it should bring its learning system out of the shadows and set the workplace learning agenda for the nation.

At a time when the nation needs all of its human resources to be competitive, the government plays an especially critical role in helping every American become capable of learning to get and hold a job.

We call on these major players—employers, educators, and governments—to collaborate in action that will increase the capacity of the nation's learning system for flexible adaptation to the demands of the global economy.

RECOMMENDATIONS TO EMPLOYERS

1. Become full, active partners with education in developing a competent workforce.
   - Form partnerships with educators to bring business management and productivity standards to education reform.
   - Contribute resources, including dedicated personnel and learning technology, to the education effort.
   - Have policies regarding the kind, quality, and outcome of relationships with local school systems.
2. Put human capital on a par with machine capital as a fundamental business resource.
   - Increase investment in training by setting a standard: an annual commitment of 2 percent of payroll would be an acceptable industry standard. An ultimate goal of 4 percent of payroll nationwide would be sufficient to extend formal training from 10 to 30 percent of employees.
   - Use training and development as a tool for efficiency, quality, and innovation. Make its use part of performance standards for managers and supervisors.
   - Treat training as an investment in productivity with the same payoff as an investment in research and development.
   - Make training executives fully responsible partners in developing the future strategy of the organization.
3. Improve the quality and delivery of training and development.
   - Create two kinds of learning systems in the workplace: one in which the organization teaches employees new skills and another in which the organization learns from employees about efficiency, quality improvement, new applications, and innovations.
   - Collaborate with other employers to develop and deliver low-cost training.
   - Use more applied learning techniques, i.e. learning in the context of a job, in employee training programs.
   - Invest in research and development in training, especially in these areas: basic research in applied learning; models of best training practices; curriculum in priority areas; research on changing skill requirements; and research on the learning needs of a diverse workforce.

RECOMMENDATIONS TO EDUCATORS

1. Improve the quality of the nation's schools.
   - Set hiring standards that result in more competent teachers.
   - Give teachers the autonomy and resources they need, and pay them what they are worth.
   - Measure the outcome of teachers' work according to the performance of their students.
   - Train and retrain teachers to meet changing needs in the schools.
   - Form partnerships with employers to bring business management and productivity standards to education reform.
   - Expect every student to reach his or her full capacity and achieve excellence.
   - Experiment more with flexible learning formats such as self-paced or computer-assisted learning.
2. Apply the nation's education system to the preparation of a competent workforce.
   - Teach these basic skills:
     reading, writing, and computation
     learning to learn
     listening
     oral communication
     problem-solving
     creative thinking
     self-esteem
     goal-setting/innovation
     interpersonal skills
     teamwork
     negotiation
     organizational effectiveness
     leadership
   - Work with training and development professionals to develop curricula that will lead to successful performance at work.
   - Clear the way for giving employers information and evaluations about students' job-related capabilities.
   - Develop a new curriculum that mixes academic basics and job-related learning for the "lower half", the 43 percent of high school students who are not college bound and the 19 percent in vocational courses.
   - Change the high school vocational system so that it prepares students for career advancement beyond entry level through further education and training.

RECOMMENDATIONS TO LEGISLATORS

1. Increase support for preparing young people to work.
   - Support future human capital development by funding pre-natal care and nutrition for poor mothers and their families.
   - Provide pre-school education for all four-year-olds not served by existing programs. Include in this education an emphasis on learning to learn and on problem solving.
   - Fully fund compensatory education programs and work experience for poor and disadvantaged students who get no other help.
   - Increase funding to JTPA (Job Training Partnership Act) for basic skills and job training for dropouts and disadvantaged youth.
   - Require welfare recipients to accept a mix of work and training that would prepare them for sustained employment.
   - Keep dislocated workers from falling into poverty by assisting them with counseling and job-search assistance before they become dislocated.
   - Expand loans for college attendance.
2. Increase support for occupational education and training.
   - Use institutions outside the government, such as unions and professional, occupational, trade associations, and community-based organizations, to develop training standards, training, and internship/apprenticeship experiences in specific occupations.
   - Extend the apprenticeship system to more occupations. Base the training on competency achieved rather than time spent as an apprentice.
   - Provide family-related benefits needed by a flexible workforce. These include health care, child care, parental leave, and portable pensions. Find ways for employers, employees, and the government to share the costs.
3. Increase support for continual learning for the employed.
   - Give the consumers of education (employers and individuals) resources to purchase more training. Simultaneously, assist the suppliers of training to provide quality training to employers and employees.
   - Experiment with loans and grants to individuals for skill improvement.
   - Give employers tax incentives to invest in more training and development of their employees.

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